

Claims 1, 2, 6 and 7 were rejected under 35 U.S.C. 103 as being unpatentable over Zhou in view of Ultratech Stepper. Claims 4 and 5 were rejected as being unpatentable over the same combination further in view of Wolf and Tauber. These rejections are respectfully traversed and reconsideration requested.

Ultratech Stepper was cited in relation to the "size" of the stepper shot. In point of fact, the present claims do not address the size of the stepper shot. The claims (claim 2) do infer that the stepper shot is square or rectangular in shape. However, the teachings of Ultratech Stepper regarding the maximum image field size and the number of exposures per wafer are not believed to be particularly relevant to the present invention.

Wolf and Tauber was cited in relation to claims 4 and 5 as teaching both positive and negative resist processes.

As the secondary references are directed to subsidiary features of the invention or to features not claimed, the following discussion will focus on the primary reference, Zhou.

Zhou relates to a particular arrangement of an alignment target that is advantageous where CMP (chemical mechanical polishing) of a wafer bearing such alignment targets occurs between successive exposure steps. CMP is used to planarize the wafer surface, thereby preparing the wafer for the subsequent exposure step.

The alignment target of Zhou features a principal inner alignment pattern and a surrounding outer "buffer structure." As noted in the Abstract, "The buffer structure thus helps to preserve the alignment marks...."

Zhou, however, simply teaches the arrangement of a single alignment target. Zhou does not address the number or relative positions of alignment targets within a stepper shot. It is in these details that the advantages of the present invention are obtained.

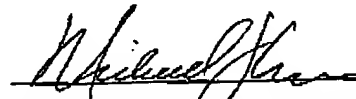
In particular, as recited in claim 1-3, alignment targets are arranged in one or more mirror-image pairs. This arrangement allows translational error and rotational error to be distinguished. In one exemplary embodiment, alignment targets are located at the midpoint of each side of the stepper shot. In another exemplary embodiment, alignment targets are located at each of the corners of the stepper shot.

Zhou says nothing about this feature of the invention. Similarly, Ultratech Stepper and Wolf and Tauber both say nothing about this feature of the invention.

For this reason independent claim 1 is believed to patentably define over the cited references.

Dependent claims 2-7 are also believed to add novel and patentable subject matter to independent claim 1. Withdrawal of the rejection and allowance of claims 1-7 is respectfully requested.

Respectfully submitted,

  
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